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REMARKS

This is intended as a full and complete response to the Office Action dated October 15, 2003. Please reconsider the objections raised therein for reasons discussed below.

OBJECTIONS TO THE SPECIFICATION

The Examiner submits that the original title submitted by the Applicant is not descriptive, and requests that the Applicant submit a new title. In response, the Applicant has amended the title to read "THIN FILM ELECTROSTATIC MOTORS", replacing "THIN FILM MOTORS". The Applicant submits that the amended title adequately describes the invention to which the claims are directed, and respectfully requests that the objection to the title therefore be withdrawn.

OBJECTIONS TO THE DRAWINGS

The drawings are objected to under 37 CFR §1.83(a). Specifically, the Examiner submits that drawings fail to show the herring bone pattern on the rotor and on the stator, as recited in the claims. In response, the Applicant has amended FIGS. 4A and 5 to illustrate, respectively, bearing groove patterns 255 and 257 formed on the rotor and on the stator. These amendments are supported by the description of the rotor and the stator in paragraph [0031] of the specification. Accordingly, the Applicant respectfully requests that the objection to the drawings be withdrawn.

CLAIM REJECTIONS

A. 35 U.S.C. §102(b): Claims 1-4

Claims 1-4 stand rejected as being unpatentable over Japanese Patent No. 08-033,360, published February 2, 1996 to *Otsuka et al.* (hereinafter referred

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to as "*Otsuka*"). In response, the Applicant has amended independent claim 1, from which claims 2-4 depend, to more clearly recite aspects of the invention.

Otsuka does not teach, show or suggest all of the limitations of independent claim 1 as amended. *Otsuka* teaches an electrostatic motor in which a rotor is levitated relative to a stator by means of electrodes positioned on the rotor and the stator, in order to eliminate contact (*i.e.*, friction) between the rotor and the stator. *Otsuka* does not teach that anything is retained between the rotor and the stator other than air. Therefore, *Otsuka* does not teach, show or suggest that a fluid is disposed between a surface of the stator and a facing surface of the rotor, as recited by independent claim 1 as amended

The design using fluid is much superior since:

1. It integrates the design of the motor with the bearing with a gap filled with fluid (e.g. disc drives motor fluid dynamic bearings) to eliminate the need for levitating the rotor. This also eliminates the startup problem since the fluid in the gap always acts as an insulator between the electrodes.
2. The presence of the fluid (with higher dielectric constant compared with air) will produce a design with less chance of electric filed breakdown compared with air this will allow operation at either larger gaps or much lower voltages.
3. The presence of the fluid in the gap will also produce a much reliable motor design. The bearing fluid will produce a much stiffer bearing with less chance for jamming due to shock and vibration. Also, the fluid will keep the gap clean by preventing the dust from building up on the electrodes and jamming the motor

Thus, independent claim 1, as amended, and claims 2-4 that depend therefrom, are patentable over *Otsuka*. Accordingly, the Applicant respectfully requests that the rejection of amended claim 1, and claims 2-4 be withdrawn.

B. 35 U.S.C. §102(b): Claims 1, 4, 7-11 and 18**1. Claims 1, 4 and 7-11**

Claims 1, 4 and 7-11 stand rejected as being unpatentable over Japan se Patent No. 08-029,556, published February 2, 1996 to *Tanaka et al.* (hereinafter referred to as "*Tanaka*"). In response, the Applicant has amended independent claim 1, from which claims 4 and 7-11 depend, to more clearly recite aspects of the invention.

Tanaka does not teach, show or suggest all of the limitations of independent claim 1 as amended. *Tanaka* teaches an electrostatic motor in which a rotor is levitated relative to a stator by means of electrodes positioned on the rotor and the stator, in order to eliminate contact (*i.e.*, friction) between the rotor and the stator. *Tanaka* does not teach that anything is retained between the rotor and the stator other than air. Therefore, *Tanaka* does not teach, show or suggest that a fluid is disposed between a surface of the stator and a facing surface of the rotor, as recited by independent claim 1 as amended

Thus, independent claim 1, as amended, and claims 4 and 7-11 that depend therefrom, are patentable over *Tanaka*. Accordingly, the Applicant respectfully requests that the rejection of amended claim 1, and claims 4 and 7-11 be withdrawn.

2. Claim 18

Claim 18 stands rejected as being unpatentable over *Tanaka*. In response, the Applicant has amended independent claim 18 to more clearly recite aspects of the invention.

Tanaka does not teach, show or suggest all of the limitations of independent claim 18 as amended. *Tanaka* has been discussed above. *Tanaka* does not teach, show or suggest an electrostatic spindle motor including fluid means disposed between first and second electrode means, as recited by independent claim 18 as amended.

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Thus, independent claim 18, as amended, is patentable over *Tanaka*. Accordingly, the Applicant respectfully requests that the rejection of amended claim 18 be withdrawn.

C. 35 U.S.C. §102(b): Claims 1, 4, 7, 11 and 18

1. Claims 1, 4, 7 and 11

Claims 1, 4, 7, 11 stand rejected as being unpatentable over United States Patent No. 4,943,7506, issued July 24, 1990 to *Howe et al.* (hereinafter referred to as "*Howe I*"). In response, the Applicant has amended independent claim 1, from which claims 4, 7 and 11 depend, to more clearly recite aspects of the invention.

Howe I does not teach, show or suggest all of the limitations of independent claim 1 as amended. *Howe I* teaches an electrostatic motor in which a rotor is levitated relative to a stator by means of electrodes positioned on the rotor and the stator, in order to eliminate contact (*i.e.*, friction) between the rotor and the stator. *Howe I* does not teach that anything is retained between the rotor and the stator other than air. Therefore, *Howe I* does not teach, show or suggest that a fluid is disposed between a surface of the stator and a facing surface of the rotor, as recited by independent claim 1 as amended

Thus, independent claim 1, as amended, and claims 4, 7 and 11 that depend therefrom, are patentable over *Howe I*. Accordingly, the Applicant respectfully requests that the rejection of amended claim 1, and claims 4, 7 and 11, be withdrawn.

D. 35 U.S.C. §103(a): Claims 6, 12, 16, 17, 19 and 20

1. Claim 6

Claim 6 stands rejected as being unpatentable over *Tanaka* in view of Japanese Patent No. 06-021,532, published January 28, 1994 to *Kusaki* (hereinafter referred to as "*Kusaki*"). In response, the Applicant has amended

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independent claim 1, from which claim 6 depends, to more clearly recite aspects of the invention.

Tanaka and *Kusaki* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 12 as amended. Specifically, neither *Tanaka* nor *Kusaki* teaches, shows or suggests an electrostatic spindle motor including a fluid disposed between a surface of a stator and a facing surface of a rotor, as recited by independent claim 1 as amended.

Thus, independent claim 1, as amended, and claim 6 that depends therefrom, are patentable over *Tanaka* in view of *Kusaki*. Accordingly, the Applicant respectfully requests that the rejection of claim 6 be withdrawn.

2. Claims 12, 16 and 17

Claims 12, 16 and 17 stands rejected as being unpatentable over *Tanaka* in view of *Kusaki*. In response, the Applicant has amended independent claim 12, from which claims 16 and 17 depend, to more clearly recite aspects of the invention.

Tanaka and *Kusaki* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 12. Specifically, neither *Tanaka* nor *Kusaki* teaches, shows or suggests an electrostatic spindle motor including a first fluid dynamic bearing surface formed on a stator and a second fluid dynamic bearing surface formed on a rotor, as recited by independent claim 12 as amended.

Thus, independent claim 12, as amended, and claims 16 and 17 that depend therefrom, are patentable over *Tanaka* in view of *Kusaki*. Accordingly, the Applicant respectfully requests that the rejection of amended claim 12, and claims 16 and 17, be withdrawn.

3. Claims 19 and 20

Claims 19 and 20 stand rejected as being unpatentable over *Tanaka* in view of *Kusaki*. In response, the Applicant has amended independent claim 18,

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from which claims 19 and 20 depend, to more clearly recite aspects of the invention.

Tanaka and *Kusaki* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 18. Specifically, neither *Tanaka* nor *Kusaki* teaches, shows or suggests a fluid means disposed between first and second electrode means, as recited by independent claim 18 as amended.

Thus, independent claim 18, as amended, and claims 19 and 20 that depend therefrom, are patentable over *Tanaka* in view of *Kusaki*. Accordingly, the Applicant respectfully requests that the rejection of claims 19 and 20 be withdrawn.

E. 35 U.S.C. §103(a): Claims 2 and 14

1. Claim 2

Claim 2 stands rejected as being unpatentable over *Tanaka* in view of *Kusaki* and further in view of United States Patent No. 5,793,560, issued October August 11, 1998 to *Mizoshita et al.* (hereinafter referred to as "*Mizoshita*"). In response, the Applicant has amended independent claim 1, from which claim 2 depends, to more clearly recite aspects of the invention.

Tanaka, *Kusaki* and *Mizoshita* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1. Specifically, none of *Tanaka*, *Kusaki* or *Mizoshita* teaches, shows or suggests an electrostatic spindle motor including a fluid disposed between a surface of a stator and a facing surface of a rotor, as recited by independent claim 1 as amended.

Thus, independent claim 1, as amended, and claim 2 that depends therefrom, are patentable over *Tanaka* in view of *Kusaki* and further in view of *Mizoshita*. Accordingly, the Applicant respectfully requests that the rejection of claim 2 be withdrawn.

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2. Claim 14

Claim 14 stands rejected as being unpatentable over *Tanaka* in view of *Kusaki* and further in view of *Mizoshita*. In response, the Applicant has amended independent claim 12, from which claim 14 depends, to more clearly recite aspects of the invention.

Tanaka, *Kusaki* and *Mizoshita* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 12. Specifically, none of *Tanaka*, *Kusaki* or *Mizoshita* teaches, shows or suggests an electrostatic spindle motor including a first fluid dynamic bearing surface formed on a stator and a second fluid dynamic bearing surface formed on a rotor, as recited by independent claim 12 as amended.

Thus, independent claim 12, as amended, and claim 14 that depends therefrom, are patentable over *Tanaka* in view of *Kusaki* and further in view of *Mizoshita*. Accordingly, the Applicant respectfully requests that the rejection of claim 14 be withdrawn.

F. 35 U.S.C. §103(a): Claims 3 and 13

1. Claim 3

Claim 3 stands rejected as being unpatentable over *Tanaka* in view of *Kusaki* and further in view of United States Patent No. 5,043,043, issued October August 27, 1991 to *Howe et al.* (hereinafter referred to as "*Howe II*"). In response, the Applicant has amended independent claim 1, from which claim 3 depends, to more clearly recite aspects of the invention.

Tanaka, *Kusaki* and *Howe II* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1. Specifically, none of *Tanaka*, *Kusaki* or *Howe II* teaches, shows or suggests an electrostatic spindle motor including a fluid disposed between a surface of a stator and a facing surface of a rotor, as recited by independent claim 1 as amended.

Thus, independent claim 1, as amended, and claim 3 that depends therefrom, are patentable over *Tanaka* in view of *Kusaki* and further in view of

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Howe II. Accordingly, the Applicant respectfully requests that the rejection of claim 3 be withdrawn.

2. Claim 13

Claim 13 stands rejected as being unpatentable over *Tanaka* in view of *Kusaki* and further in view of *Howe II*. In response, the Applicant has amended independent claim 12, from which claim 13 depends, to more clearly recite aspects of the invention.

Tanaka, *Kusaki* and *Howe II* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 12. Specifically, none of *Tanaka*, *Kusaki* or *Howe II* teaches, shows or suggests an electrostatic spindle motor including a first fluid dynamic bearing surface formed on a stator and a second fluid dynamic bearing surface formed on a rotor, as recited by independent claim 12 as amended.

Thus, independent claim 12, as amended, and claim 13 that depends therefrom, are patentable over *Tanaka* in view of *Kusaki* and further in view of *Howe II*. Accordingly, the Applicant respectfully requests that the rejection of claim 13 be withdrawn.

G. 35 U.S.C. §103(a): Claims 5 and 15

1. Claim 5

Claim 5 stands rejected as being unpatentable over *Tanaka* in view of *Kusaki* and further in view of United States Patent No. 5,173,797, December 22, 1992 to *Zedekar et al.* (hereinafter referred to as "*Zedekar*"). In response, the Applicant has amended independent claim 1, from which claim 5 depends, to more clearly recite aspects of the invention.

Tanaka, *Kusaki* and *Zedekar* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1. Specifically, none of *Tanaka*, *Kusaki* or *Zedekar* teaches, shows or suggests an electrostatic spindle motor including a fluid disposed between a surface of a stator and a facing surface of a rotor, as recited by independent claim 1 as amended.

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Thus, independent claim 1, as amended, and claim 5 that depends therefrom, are patentable over *Tanaka* in view of *Kusaki* and further in view of *Zedekar*. Accordingly, the Applicant respectfully requests that the rejection of claim 5 be withdrawn.

2. Claim 15

Claim 15 stands rejected as being unpatentable over *Tanaka* in view of *Kusaki* and further in view of *Zedekar*. In response, the Applicant has amended independent claim 12, from which claim 15 depends, to more clearly recite aspects of the invention.

Tanaka, *Kusaki* and *Zedekar* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 12. Specifically, none of *Tanaka*, *Kusaki* or *Zedekar* teaches, shows or suggests an electrostatic spindle motor including a first fluid dynamic bearing surface formed on a stator and a second fluid dynamic bearing surface formed on a rotor, as recited by independent claim 12 as amended.

Thus, independent claim 12, as amended, and claim 15 that depends therefrom, are patentable over *Tanaka* in view of *Kusaki* and further in view of *Zedekar*. Accordingly, the Applicant respectfully requests that the rejection of claim 15 be withdrawn.


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CONCLUSION

The Applicants submit that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and swift passage to issue are earnestly solicited.

If the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone James Sheridan at (650) 330-2310 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



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